1: Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

a Turkish expedition first penetrated to their fastnesses, had been formed on paper into a qadhā of their own, with their Aghā irreplaceable as Qa'immaqam. The nomadic Harki passed annually across the Persian frontier, to the ruin of all settled folk in their path. Equally disastrous as neighbour or subject, and as ready to cross into Persia, was the oppressive restless Shaykh of Barzan, the religious prestige of whose family had attracted and settled a 'tribe' across the Zab from the Zibar country. Within the northern frontier of Mosul wilaya lay settled tribes, largely of the Ḥakkari group. They included the Shirwan, Mizuri, and Barwari groups. The folk of the tribeless 'Amadiya villages were reckoned also as of Ḥakkari stock.

6. RESOURCES AND COMMUNICATIONS

Many or most of the miseries of the 'Iraq of 1900 were due, it has been seen, to a single cause: the all-pervading poverty of the country and its Government. How then, in a territory famed of old for its wealth, were the modern 'Iraqis—and their Government—in fact gaining so poor a living?

The mineral resources of the wilayas were of the slightest. Building stone in the north, fullers' earth, some sulphur, salt, some low-grade 'coal' and gypsum: these were of some domestic use, but none provided wares for export. More significant were the seepages of mineral oil at many places in northern 'Iraq. At Hit on the Euphrates the bitumen outcrops had been worked since remote antiquity, and still gave material for the local industry of boat and coracle building. At Qaiyara and at Ṭuz Khurmatu the Saniya Administration owned outcrops of liquid petroleum, and exploited them by devices of comical primitiveness. At Kirkuk the seepages of Baba Gurgur belonged by ancient Firman to the Naftchi family. For those north of Mandali (which are those today exploited at Naftkhana), a refining plant had been erected at Ba'quba in 1871, but the project languished and failed. Applications by Europeans to exploit this and the Qaiyara oil were refused; but German experts had visited 'Iraq in 1871, and samples had been sent to London. The oil rights of the wilayas had been transferred, significantly, from the Finance Ministry to the Sultan's privy purse in 1889.

Local industry was insignificant and almost all unmechanized. There was some silk weaving at Baghdad and the smaller towns, some weaving of cotton and woollen cloths, rough mats and rugs. Jewellers' work was poor in quality, save for the curious antimony-on-silver "Amara work' of the Sabaeans. Finer work of Persian craftsmen in wood and ivory, and the kettles of the Baghdad coppersmiths, supplied local needs. Bright-coloured tiles were

1: Longrigg G-4, 6 (ca. 1915-1940) MH1 Iraq MH1

operation under Tainsh was uneasy, but in practice tolerable; the transfer of ownership to a Railway Corporation of Anglo-'Iraqi membership was, as with the Port of Baṣra, provided in the 1930 Treaty. The service and maintenance of the 750 miles of line were hampered by abiding financial stringency due normally to road competition and the uncertainty of the pilgrim traffic, and abnormally to flood interruptions such as those of 1926 and 1930 and to the stagnation of trade in 1929–32. Two lines of railway development were followed, both of international interest: the first was the provision in 1930 of a link by motor convoy between Kirkuk and the Turkish railway at Nisibin, making possible direct bookings from Baṣra to Europe: the second was the prosecution in 1930–1 of the survey for a Baghdad–Haifa line—a project widely supported but destined, twenty years later, to be still as far from realization.

'Iraq's fortune was that of many contemporary nations in the rapid development of its air routes. A weekly mail service Baṣra–Baghdad–Cairo was inaugurated early in 1927, to be followed two years later by the England–'Iraq–India service of Imperial Airways. In the same year a first civil airport was ceded by the R.A.F., and the (German) Junkers Company initiated, but failed to sustain, a Baghdad–Teheran service. Soon afterwards aircraft of the (French) Air Union or Air France appeared, and those of the Royal Dutch (K.L.M.) line; 'Iraq's central position for air communications—the 'Clapham Junction' rôle asserted for it by Mr. Churchill in 1921—was fast revealing itself. A modern-equipped airport immediately outside Baghdad begun in 1931 was completed in two years, and civil landing-grounds were in use also at Baṣra, Ur, Ruṭba, and elsewhere.

The effect of the trans-desert route and the increasing east–west air services on postal communications was profound. Both were used as they came into being for letters, the former also for packages; communications with Europe and India were revolutionized. In 1929 'Iraq joined the International Postal Union. With the constant spread of the telegraph and trunk telephone network within 'Iraq went the increasing use of wireless. The Baṣra station already communicated directly with Europe; those of Ruṭba and Baghdad were ancillary to it.

If the uplifting of 'Iraqi standards of life could be assisted indirectly by these improvements, it must be sought more directly in the development of its old and some new resources. The efforts of the public and Government were active in this direction. No minerals, other than petroleum, were located. The Government salt monopoly could do no more than maintain itself. A gold concession granted in 1931 for the mid-desert Qa'ara Depression, near

1: Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

185 Ruṭba, led to no discoveries. An experiment in the export of
654 bitumen to India was short lived. Nor could industrial develop-
135 ment proceed far, though it had its place in the programme of every
Cabinet and in 1929 was encouraged by indulgent legislation in its
433 favour. 'Iraqi capital, exploitable raw materials, a class of skilled artisans and local purchasing power: these were all lacking. The Government's Industrial Exhibition at Baghdad in 1932 had little to show. There had been local development of electric power and mechanized brick-making. Two ginneries, one British one 'Iraqi, stood ready for cotton that was slow to appear. Two wool mills dealt with the inferior local fleeces, small cigarette factories had transformed smokers' taste, a soap works and a tannery were indifferently successful. A cement factory was long projected, and in 1932 a concession was granted to Yasin Pasha and partners. To utilize 'Iraq's surplus products plans were made for a shoe factory, a fruit-canning plant, and date-sugar production. But the total of these could do little to solve the country's problems.

382 With the petroleum industry it was otherwise. Though oil
471 export could not commence until late in 1934, it was established in 1927 that 'Iraq was to take its place among the world's great oil territories. The Turkish Petroleum Company's drilling campaign, inaugurated by the King with due ceremony in April of that year, was early rewarded by an oil strike of exceptional abundance at Baba Gurgur close to Kirkuk on 27 October; and while drilling at many locations proceeded with varying success, the dimensions and behaviour of the Kirkuk structure were confirmed by later tests as those of an oilfield of the very highest class, whatever others 'Iraq might prove to contain. The four years following were devoted, on the one hand, to preparing the Kirkuk field for production by drilling and scientific observation, and by the provision of necessary services—production installations, tankage, workshops, housing, and amenities—and on the other, to negotiating with Government for an extension of the period permitted for plot-choosing under the 1925 Convention, since much of northern 'Iraq had meanwhile been inaccessible to exploration: or, alternatively, for a recasting of that agreement itself. These negotiations ended with an agreement of March 1931 whereunder the Company (renamed 'Iraq Petroleum Company in 1929) renounced all its territory west of Tigris and south of latitude 33 but, within the retained area (which was the whole of north-eastern 'Iraq), could exploit not only chosen and limited plots but the whole territory. The Company promised to construct by 1935 pipelines to the Mediterranean of at least 3 million tons capacity, bifurcating at the Euphrates towards Haifa and Tripoli, and to pay annual lump sums of £400,000 (gold) a year to Government, pending production and

1: Longrigg G-4, 5 (ca. 1915-1940) MH1 Iraq MH1

Much progress had been made, under the care of a Hides Association, in the better treatment of local hides and skins, and well-tanned leather was produced. Boot and shoe manufacture, largely by electrically-operated machinery, had increased in scale and quality. The cement factory outside Bahgdad, using lime brought from near Ṭuz Khurmatu, came into important production in 1949 and was soon selling 250 tons a day. The three cotton ginneries erected before the war—one of them an Agricultural Bank enterprise at 'Aziziya—remained in being, with capacity to deal with much more than the available cotton crop. Printing presses, all small except one European-owned and that of the Government, remained substantially as before the war, save in their modernized equipment. The spinning and weaving industry, which in some cases also dyed and finished its fabrics, had by 1950 greatly increased its pre-war development and used in part local cotton; a factory in Mosul made also rayon cloth.

Other industrial projects more or less near to realization in 1950 were for rayon production from straw, for local production of fertilizers, and for sugar-refining. The treatment of tobacco leaf had been intensively studied, but remained defective. The industries likely, it was thought, to develop further, using 'Iraqi raw materials and diminishing the need for import, were those producing cement, soap, alcohol, vegetable oil, leather and shoes, cigarettes, beer, and textiles. The other industries would in all probability keep a lesser though perhaps a useful place; none was likely to produce a considerable surplus for export, unless, as some hoped, an industry could be founded to use, for fertilizers or otherwise, the abundant by-products of petroleum. The Development Board intended considerable expenditure on 'industrial and mining schemes' in the period 1951 to 1956, upon lines to be later revealed.

'Iraq's poverty in minerals other than petroleum seemed in part to have been corrected by the discovery, in the later forties, of interesting copper and copper pyrites deposits in the mountainous Qal'a Diza area, and by reports from the Government geologist of an outcrop of excellent marble near Rayat and supplies elsewhere of chromite, iron ore, magnesite. These, or some of them, were thought capable of commercial development. A hard limestone suitable for barrage building was sought and found. Local salt, gypsum, brick clay, Mosul building-stone, and cement-making materials were in use as before, and it was planned to renew the activity which during the war had produced up to 15,000 tons a year of Kifri 'coal'.

In spite of the imposed delays and frustrations of the war period, the position achieved in the petroleum industry by 1950 was such as to place 'Iraq in the forefront of oil-producing countries, with

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135 (2) The Supply of RAW MATERIALS AND POWER: Iraq is potentially
233 rich in many kinds of raw materials. In the first place it has abun-
241 dant supplies of oil and gas which provide a cheap source of both
433 raw material and fuel. Secondly, it has pastoral and agricultural products such as wool, camel hair, hides and skins, meat, fish, milk, animal fat. Thirdly, it has fertile land which, with the extension of irrigation, can be a rich source of such raw materials as sugar beets, sugar cane, soybeans and jute, in addition to products already available such as tobacco, cotton, sesame, linseed, and practically all types of grain, fruits and vegetables. Finally, recent geological surveys have located outcrops of iron, copper, zinc and chrome ores. There are deposits of sulphurs, apparently of commercial value, in many parts of Iraq, and of salt, especially near Basrah. Yet each of these resources presents a different problem; none is easily exploitable (except oil); quantities available for industry are limited and the quality frequently poor. Agriculture has been kept at a low level of output because of the lack of irrigation schemes in most parts of the country; the difficulties caused by the present land tenure system and the agricultural techniques connected with the tribal system, which covers over 80 per cent of the cultivated area; the absence of an effective agricultural extension service and lack of modern storing facilities; these and other factors have held back both quantity and quality of agricultural and animal products. There was a noticeable extension in the cultivation of cotton in recent years, but the severe failure of the crop in 1951, owing to a pest attack, has been a great set-back. Difficulties in the supply of raw materials have held up many an industrial enterprise. The scheme for a sugar factory which has been under discussion since 1947 has had to be postponed from one year to another owing to the uncertainties connected with the
[281] cultivation of both sugar beet and sugar cane. The progress of the leather tanning industry, one of the oldest industries in Iraq, has been retarded due to the existing conditions in which hides and skins have been prepared and preserved, and great losses to this particularly native industry have resulted. The woollen textile
[289] mills have had to import certain qualities of Australian wool to mix with Iraqi wool which is of a coarse variety.

135 So far as mineral resources are concerned the surveys that have been made are insufficient.[1] Further exploration work is

[1] As of writing, in July 1953.

needed to prove the extent and quality of the ores located. This work has gone till now rather tardily, owing to the inadequate funds at the disposal of the Directorate General on Minerals. There also seems to be no clear policy as to how this wealth should be exploited: whether by the State directly or by concession to national or foreign enterprise. 135

Another factor delaying work in this field is the difficulty of transport to and from the sites of the ore deposits which are remotely situated in desert and mountain. [489]

Oil and gas are indeed plentiful in Iraq, and the exploitation of oil resources has indirectly helped to finance the industrial development so far achieved. But the cost of oil fuel and other oil products for local consumption is not much lower than in other countries because of the high rate of taxes on consumption. This and the limited range of oil products so far made in Iraq by the Alwand refinery, owned by the Anglo-Iranian Oil Co., have led to the import of a number of oil products from abroad. But the situation should change when the State-owned refinery, now under construction, goes into production. 382

Another problem connected with the supply of fuel is the lack of electric power. Power generation in Iraq is inefficiently organised and power rates, except in Basrah and Baghdad in recent years, are among the highest in the world. This has compelled most industries to generate their own power which has added a great deal to production cost. The recent reduction of power rates and the availability of electricity in Baghdad has been one of the major reasons for the concentration of industry in that city. 371

(3) **Concentration of Industry**: Industry in Iraq is heavily concentrated in the city of Baghdad which has a population of 550,000 inhabitants, in other words a little more than ten percent of the country's population. Excluding oil and one or two small textile, tanning, and grain-milling industries, all modern industry has been established in or near Baghdad, thus adding to the population and housing problems of the capital. There are many reasons for this concentration of industry. All routes converge on Baghdad; it has the largest population and, as the seat of Government, it offers easy access to the central authority. As an old trading centre Baghdad has a well-organised market, large financial resources, and managerial and office staffs. Some of the factors that have made Baghdad 438 [366]

7: International Bank N, S-4 (1951) 1952 MH1 Iraq MH1

I. Introduction

311 Iraq possesses impressive potentialities for economic development. With a total population of about 5,000,000 and an area of 168,400 square miles, Iraq is sparsely populated in relation to its resources. Although all but a relatively narrow belt in the north and northeast has insufficient rainfall to sustain agriculture, the country's twin river systems—the Tigris and Euphrates—can provide large amounts of water for irrigation. Much of its soil is inherently fertile and with ample water, manpower and implements, the area under cultivation might be almost tripled. In oil, Iraq possesses not only a source of foreign exchange but also a cheap source of power and raw materials essential to the development of industry, agriculture and transportation; and it may have other mineral resources susceptible of commercial exploitation. There is little doubt that the country can ultimately maintain a much larger population on a considerably higher standard of living.

511 As yet, however, this economic potential is in sharp contrast to the poverty prevailing in Iraq. The standard of living of the people is extremely low. Income per capita is probably at most ID 30.[1] Almost 90 percent of the population are illiterate and many are subject to debilitating diseases such as malaria, hookworm and bilharzia. Housing and sanitation are for the most part primitive. The fundamental reasons for these conditions are low output and low productivity. Most of the manpower on the land is underemployed for a large part of the year, and considerable unemployment exists in the major cities. Vast tracts of land await reclamation and irrigation before they can be used. Much of the available water is wasted owing to lack of storage and regulation of flow. In the spring disastrous floods often inundate large areas; and in the fall water is acutely short. Agricultural output is hampered not only by the inadequate and irregular supply of water, but also by the progressive salination of the soil in the irrigated areas. Agricultural techniques are primitive, the number and quality of draft animals are inadequate and there is insufficient equipment. Industry is little developed. Although perhaps as many

[1] One Iraqi dinar equals £1 or $2.80.

7: International Bank N. S-4 (1951) 1952 MH1 Iraq MH1

III. Industry

Industry is as yet little developed in Iraq. As already indicated, apart from the oil industry which employs about 12,000 people, probably not more than 2,000 are working in modern industrial plants. These plants represent a total capital investment of approximately ID 4,000,000 and an annual gross income of about ID 3,000,000. Industry is largely confined to the processing of agricultural products, the production of building materials such as cement and bricks, and the manufacture of consumers' goods like textiles, soap, matches, cigarettes, shoes and beverages.

Conditions, however, are generally favorable to further industrial development. An expanding agriculture should provide more materials, such as fibres and oil seeds, for processing and when the standard of living among the rural population is raised there should be a growing domestic market for industrial products. In oil and natural gas the country possesses a cheap source of power and fuel as well as an important source of raw materials. There are surface indications of iron, copper, zinc and chrome ores, as well as of the existence of sulphur and salt deposits. The extent of such deposits should, however, be confirmed by core drilling before steps are taken to undertake their commercial exploitation. In the cities there is adequate manpower for industry, and the Iraqi workman with proper training is generally adept at learning industrial processes. Skilled manpower, however, is very limited, and, naturally enough, there is little of the technical "know-how" which comes through experience and training. Other limiting factors in industrial development are the lack of sufficient private capital and initiative. Much capital, particularly that accumulated from agriculture, is hoarded and the balance is generally invested in urban or rural property, which is regarded as less risky, or in commerce, where investors anticipate a higher rate of return. While there is a trend toward increased private investment in industry, particularly since the war, industrial development in the immediate future will have to depend very largely upon the initiative or financial assistance of the government.

7: International Bank N, S-4 (1951) 1952 MH1 Iraq MH1

The Mission has carefully considered what industries might be expanded and what new industries might be established. It has sought to confine its recommendations for industrial development to those industries where there is reasonable prospect of efficient production, competitive with imports, and where production is within the technical capacity available in Iraq, supplemented, where necessary, by outside technical and managerial assistance.

Petroleum and Refining

No recommendations need be made on the oil industry. The oil resources of Iraq are immense, the reserves of the Kirkuk field amounting reputedly to 1,000 million tons and those of the less well explored fields near Basra offering perhaps equal promise. The development of these resources by the oil companies is proceeding along sound lines. The oil companies have also been well in advance of other enterprises in providing housing, health services, and other amenities for their employees, in instituting labor training schemes and providing better pay for workers. The Mission realizes that there has been some criticism in Iraq of the rate of development, particularly in the Basra field. The expenditure of close to £90,000,000 by the oil companies on oil development in Iraq is now, however, beginning to yield a rapidly rising output. Production in recent years might have been much greater if the outbreak of the war with Israel had not resulted in closing the pipeline to Haifa and in preventing the completion of another pipeline to that city. The existing line has a capacity of 2,000,000 tons and the projected line would have added another 4,000,000 tons. As already indicated, the government has recently obtained a commitment by the oil companies to increase output, which was a little less than 6,000,000 tons in 1950, to 30,000,000 tons per year by the end of 1955. It would not be advantageous to Iraq, however, to have production increased to such levels that the ensuing rise in oil revenues cannot in fact be effectively spent. Oil in the ground is a reserve for the future, and too rapid tapping of this reserve may entail a partial waste of resources.

The government has decided to build a modern oil refinery near Baghdad which it anticipates will cost about £7,000,000. This refinery will use crude oil supplied from the Kirkuk fields at cost. With an annual capacity of 1,000,000 tons, it will be able to supply

7: International Bank N, S-4 (1951) 1952 MH1 Iraq MH1

427 241 average; and in date and fruit groves his allotment is likely to be equally small. In each of these cases, however, the output per donum is considerably more valuable. In the rain-fed plains of the North where land is more plentiful and yields more uncertain, he may on the average plant as much as 40 donums in winter crops. In most areas the fellah and his family can probably get as large a winter crop area as they can till, but their capacity is limited by lack of draft animals, primitive agricultural techniques and the debilitating effects of disease and a hot climate. In some areas of the irrigation zone, however, particularly in parts of Hilla, Kerbela and Diwaniya, the fellah appears to get less land than he can till owing to the limited availability of good, irrigated land. The same applies to some rice-growing areas, particularly in Amara.

Lack of sufficient draft animals and implements, low yields and the necessity of turning over a share of the crop to the landlord or pump owner all combine to depress the economic status of the sharecropper. His position can only be improved by enabling him to raise his output or by increasing his bargaining power through the creation of alternative opportunities for employment and the opening up of new lands to settlement.

Minerals: Oil

135 315 Iraq possesses considerable mineral resources. Of these by far the most important is petroleum. There are at present two major oil fields—one near Kirkuk in the North, the other near Basra in the South. The Kirkuk field is generally reputed to have reserves of over 1,000 million tons, while that near Basra, which is less well explored, seems to be almost equally promising. There are also minor oil fields at Ain Zaleh in Mosul province and near Khanaqin on the Iranian border.

135 Although surface indications of the existence of copper, iron, chromite and other ores have been found in the mountainous belt adjoining Turkey and Iran, the existence of deposits of sufficient size to warrant commercial exploitation must first be confirmed by core drilling.

7: International Bank N, S-4 (1951) 1952 MH1 Iraq MH1

135 Several geological surveys have located outcrops of iron, copper, zinc and chrome ores. The extent and quality of these ores, however, will not be known until further exploration work has been accomplished. There are surface indications of 30 percent elemental sulphur mixed with limestone but, as in the case of the ores, these deposits have never been adequately proven. Previous to the large-scale production of oil, some coal was mined, but actual reserves have never been fully ascertained. A large and potentially valuable salt dome was located near Basra when geophysical surveys were being conducted in connection with oil exploration. It would appear, therefore, that Iraq has a fairly broad range of minerals which might be worthy of exploitation.

Some Factors Affecting Industrial Growth

433 454 Some of the basic causes of industry's retarded development are lack of private investment, technical inexperience and inadequate markets. In the past capital has often been hoarded or invested in rural or urban property or in commerce, where the security or rate of return was believed to be higher than in industry. To some extent this tendency has been overcome through tax exemptions, tariff protection and the financial assistance of the Industrial Bank.

464 433 On the other hand, little is being done to increase the number of skilled workers and technicians through education and training. One of the biggest handicaps in apprentice training is the lack of elementary education. Employees who are unable to read and write obviously can neither receive written instructions, maintain material and inventory control, select proper repair parts nor attend advanced in-plant training classes. Until this is corrected, Iraq must continue to rely on skilled foreign technicians and, in some of the larger and more complicated industries, on foreign management.

The supply of common labor is now ample and will probably remain so for many years to come. A shortage of labor, should it occur, could be corrected by the employment of women in greater numbers and by further mechanization. Industry has not, however, reached the stage of development where this should be attempted, for a highly mechanized plant means high capital costs, greater

7: International Bank N, S-4 (1951) 1952 MH1 Iraq MH1

in Basra, close to both shipping and the agricultural area which may prove suitable for the growing of jute. It would employ about 300 workers.

Automobile Tires

The importation of automobile and truck tires is increasing at a rate of approximately 15 percent per annum, the value of all tires imported in 1950 being ID 468,000.

A plant of economic size to manufacture tires could be justified with a market of approximately twice that which now exists. Such a market will probably be reached in 1955. Since it would require approximately two years to construct a tire plant, it is recommended that plans be formulated to start such a plant in 1953.

The plant would be so designed as to utilize the maximum amount of labor and, accordingly, should cost no more than ID 750,000, including foreign exchange of ID 600,000, mainly pounds sterling. It could be financed by private capital with the assistance of the Industrial Bank. Foreign technicians would be required during the first years of its operation.

Salt

Geophysical work gives conclusive evidence of a very large salt dome near Basra. Unfortunately, the analysis is not known. This dome could be the source of very cheap salt for both export and domestic consumption. It might make feasible the establishment of an alkali plant, particularly since the nearby oil field would be able to furnish gas as a source of cheap power. It is recommended, therefore, that core drilling of this dome be started as soon as possible to permit a proper evaluation of the possibilities of its use.

Sugar Mill

Considerable thought has been given to the recommendation of a sugar refinery. Such an enterprise would, of course, have to depend on agriculture to supply the raw material, either in the form of sugar beets or sugar cane. Since this cannot be assured at this time, it is recommended that the development of this industry be held in abeyance for the present.

refinery on the river Alwand, near the town of Khanaqin.

The production of crude petroleum in Iraq amounted to 4,680,000 tons in 1946, 4,702,000 tons in 1947 and 3,427,000 tons in 1948, and is estimated at 4,326,000 tons for 1949.[2] The figures showing the crude petroleum production of the Middle-Eastern group, including Iraq, are given in an annex (see annex I, table 2).

135 Apart from petroleum, the subsoil of Iraq is rich in other minerals, such as coal, salt, sulphur, marble, limestone and various metals, including iron and copper. But the utilization of these resources has been delayed by the high cost of transport.

382 Although Iraq is so rich in petroleum, it has no refineries apart from the stabilization plant at Kirkuk, with an annual capacity of only 480,000 tons, and the Khanaqin Oil Company's small refinery on the Alwand, the daily capacity of which is 1,500 barrels, or 72,000 tons per year.

C. *Transport and communications*

Port

504 Basra is Iraq's only port. The designation "Port of Basra" generally refers to the whole length of the Shatt al-Arab, between the mouth of this river and the Naft-Umar lighthouse situated approximately 163 kilometres up-river from the Persian Gulf. The strip of land on the left bank of the river, between the Gulf and the Khaiyin Canal, is Iranian territory.

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874 ics in agricultural areas. Foreign advisers and instructors are being extensively employed. *Commercial:* secondary commercial schools in Baghdad, Mosul, Najaf, with night classes in Baghdad and Najaf. Commercial classes have been introduced into the ordinary secondary school curriculum in various cities. *Nursing and Domestic Science:* Schools of Domestic Science, Nursing, Midwifery in Baghdad. It has been proposed that instruction in the state vocational schools should be of such a standard that graduates could proceed at once to the relevant higher institutions. Other vocational establishments are the Iraq State Railways workshop training school in Baghdad and the IPC's technical training centre in Kirkuk.

873 An Institute of Fine Arts in Baghdad gives instruction in music, painting, sculpture, and drama and trains teachers in most of these subjects.

873 217 *Department of Antiquities.* The Department of Antiquities maintains an extensive programme of excavation, restoration, research and publication and has gained recognition for its work in international academic circles. It controls five museums in Baghdad, one each at Samarra and Babylon, and has recently opened one in Mosul.

Economic Survey

651 439 433 The greater part of Iraq's national revenue will soon be drawn from her oil, which represents an important fraction of the world's supply. Her general economic organization is nevertheless agronomic. Agriculture and animal husbandry practically suffice for her internal requirements of foodstuffs and provide, after oil, most of her exports.

135 Apart from oil, raw materials are sparse. There are deposits of salt, low-grade bituminous coal, gypsum, and sulphur and, in more limited quantities, of potassium nitrate, crystal quartz, sandstone, and dolomite. Building stone is found only in the 339 hill districts; in the alluvial plain mud and reeds are the com- 342 mon building materials of the poor, but houses of locally made burnt bricks are common in the towns.

185 652 [511] In 1950 a Development Board was established with the function of drawing up and, after parliamentary approval, executing a general economic and financial plan for developing the country's resources and raising the standard of living; it was to include but not be limited to projects for water conservancy, flood control, irrigation, drainage, industry, mining, and improvement of river, land, and air communications. For the execution of its programme the Board has been allocated 70 per

[Marsh Arabs]

243 Bombay was. "No," he said, "here we make our bread
262 from rice flour. When the wheat crop is a failure, as in the past year, we have almost nothing else."

312 These overflow districts,* which are marshes in the spring when the rivers overflow, dry down to hard soil later in the year. To keep the water high for a few weeks longer than it would naturally remain so, temporary dams are constructed across some of the smaller streams, leaving an opening to allow boats to pass and water to run through. These dams persist in the face [342] of a strong current in a way that is surprising. Mud, tree branches, mats, soil and the like seem to be the only building material, for there is no stone within hundreds of [476] miles. The dams require a large amount of labor, and of course are coöperative enterprises. Possibly because of this necessity for coöperative effort, the Marsh Arab communities appear to have developed a good degree of community spirit.

361 Like their race everywhere, these Marsh Arabs do not live in isolated individual houses in the midst of their fields but collect in larger or smaller towns, some of them of considerable size. These towns are located usually in the fork of a river, or where several streams come together. In Lower Mesopotamia there are many small channels that carry water either out of the main
501 river or into it. The Marsh Arabs get about in picturesque, high-prowed, black river boats, black because they are covered with a thick coat of native bitumen which wells from the ground in one or two places in Mesopotamia and is an indication, so the engineers tell us, that [135] petroleum is to be found in that country. These river boats, which are the one means of transportation, are built somewhat on the lines of a canoe and take consid-

*[along the last 100 miles of the Arab river from Gurna to the Gulf -- Analyst]

29:Dunn S-4 (1952)1952 Ml Middle East
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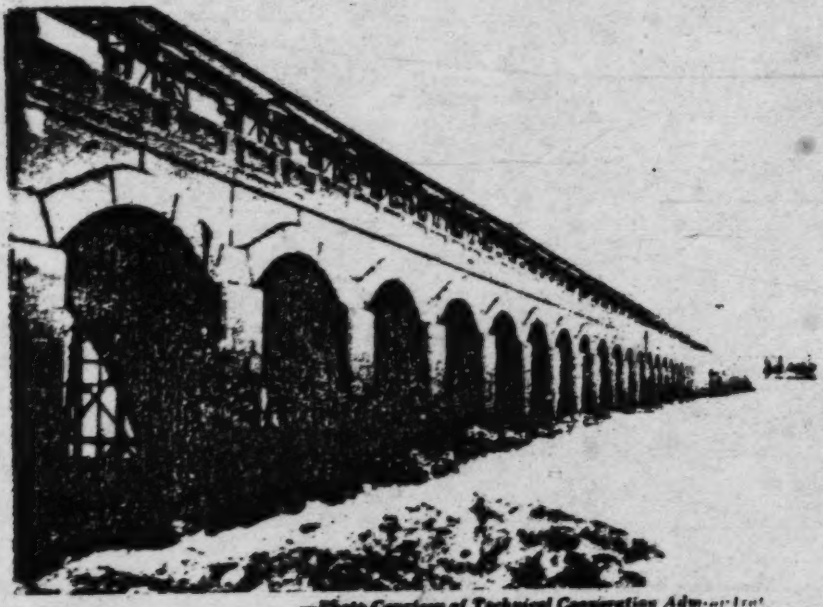
initiative and financial assistance of the government.[36]

The government has been advised to encourage development of light industries: Cotton textiles, cottonseed oil crushing mills, jute mills, bone fertilizer plants, automobile tire factories, small steel mills, central machine shops, concrete block plants, possibly a paper mill, a chemical factory for making inorganic fertilizer, and possibly salt refineries.

The Mission strongly urged the government not to attempt to own or operate these new factories itself, but to encourage private capital to do so.[37] This recommendation has been followed in the main. The Industrial Bank, created with funds derived from the oil royalties, has been financing private industry in a number of fields, particularly cotton textiles and cottonseed oil crushing and refining. The outstanding exception is the new petroleum refinery being built by the government.

OIL

Oil reserves in Iraq are thought to be tremendous—at least a third of the total Middle Eastern reserves, which are reckoned at 50 billion barrels, or



—Photo Courtesy of Technical Cooperation Administration

Capacity of the Kut Barrage on the Tigris River in Iraq is almost a quarter of a million cubic feet of water per second, which makes it the largest diversion dam of its kind in the world. The dam was built by British contractors for the Iraq Government in 1939. With oil revenues now pouring into the treasury Iraq plans to build several more large-scale irrigation facilities for storage and diversion. New projects are already in progress in the upper reaches of the Tigris River system.

[36] *Ibid.*, p. 31.
[37] *Ibid.*, pp. 30-31.

29:Dunn S-4 (1952)1952 MI Middle East
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[135] about half of the world's total. However, Iraq's past output has been paltry compared to its potential. A year ago Iraq's oil was flowing at the rate of 382 160,000 barrels a day. The figure is now 185,000, and estimates are that it will jump to 440,000 before long. The handicaps have been transportation and political difficulty. Iraq's wells are hundreds of miles from the Persian Gulf or the Mediterranean Sea, which means pipelines have to be constructed. Before this year two pipelines were in operation from the Iraqi fields to Tripoli, Lebanon. A 12-inch pipeline to Haifa, Israel, has been put out of use since Iraq joined the Arab embargo of Israel. A new 16-inch line built almost to the Israeli border has never been completed for the same reason. Early this year one small new line was completed to the head of the Persian Gulf, which will have a capacity of about 40,000 barrels a day. The main addition is the 30-inch line to the Mediterranean just being finished. It runs to Banyas, Syria, and has a capacity of 280,000 barrels a day.

[471] Mining is carried out by the Iraq Petroleum Company, owned by United States, Dutch, British, and French interests. Despite this diversified interest, there has been continuous trouble with reactionary groups in Iraq along the same lines, but less serious than those in Iran. Recently the Parliament approved a new oil contract which promises the Iraqi Government 50 per cent of profits before foreign taxes, and (from the western point of view) the political situation seems to have improved.[38]

COTTON TEXTILES

288 Until the erection of the Iraqi Spinning and Weaving Company mill in 1948, cotton was used primarily for filling mattresses, for upholstery work, and for the home industries. Around 2,600 bales of cheap raw cotton and cotton waste normally have been imported from India for this purpose. A small crop of unirrigated indigenous cotton raised in the north around Zakho goes into this market, too.

The Iraqi Spinning and Weaving Company in Baghdad doubled its capacity in 1951 and now has about 27,200 spindles and 580 looms, producing about 18 million yards and finishing 5 million yards annually. The company already has purchased more equipment to give a total of 39,000 spindles and 900 looms, capable of producing about 27 million yards of cloth annually. Several small mills weaving cotton and rayon and three small knitting mills are reported also.

The mill consumed 10,482 bales of cotton in 1951 and expects to use 15,000 bales in 1952. The cotton has been secured almost entirely from the domestic crop. A poor crop forced the mill to buy 1,500 bales from the United States in the early part of 1952, but this unusual situation is not expected to be repeated.

471 Funds authorized in the government budget for other cotton textile mills
288 have not been expended, presumably because of the general opposition to government intervention in the field of private enterprise and because of the recent expansion in the Iraqi mill. This expansion was financed by the Industrial Bank, which owns about a third of the company's stock.

288 With this expansion the factory should be able to produce about 40 million yards of cloth annually, or about 60 per cent of the country's requirements of 70 million yards.

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[38] Carmichael, J. H., "Oil from the Middle East Hits a New High Mark," *New York Times*, March 23, 1952.

241 commercial crops in the rain-fed zones of the north; dates, cereals and cotton, in the south. The date-palm groves in the irrigated lands along the Shatt al Arab and the Euphrates rivers, and in scattered areas along the Tigris, furnish almost one third of the 233 world's supply of dates. Sheep, goats, cattle and other livestock are raised in large numbers by the nomadic and the seminomadic 439 peoples. The chief agricultural exports are dates, barley and other grains, cotton, wool, hides and licorice: this last-named item grows wild in many localities in the south. 242 The government is promoting the adoption of modern methods of farming and animal husbandry and the expansion of irrigation facilities. It operates special agricultural schools and experimental farms in different parts of the country, as well as a date research station near Basra. Within the last few years it has initiated settlement and demonstration projects on state lands at Dujayla, near Kut; at Shahrizor, near Sulaimaniya; at Huwaija, near Kirkuk; and at Sinjar, near Mosul.

135 With the exception of the oil reserves, the mineral resources of Iraq are negligible. Small deposits of lignite, gypsum, sulfur and other minerals are known to exist in the north, while salt beds are found in widely 472 distributed areas. Industrial development is 438 slight, in spite of the impetus supplied by the shortage of materials during the recent war years. Small craft industries flourish in the urban centers, and a few modern factories have been established in Baghdad and Mosul for the processing of local products. These consist primarily of plants for the manufacture of textiles, cement, bricks, distilled liquors, soaps and cigarettes.

135 The petroleum industry has expanded rapidly since the discovery of oil, in 1927, at Baba Gurgur, in the Kirkuk region. The reserves, which are reputed to be among the richest in the Middle East, provide a pri- 471 mary source of wealth for the country. The Iraq Petroleum Company holds concessions, originally granted in 1925, covering the lands east of the Tigris River and north

in 1935, the Agricultural and Industrial Bank was founded. Little progress was achieved before the outbreak of the Second World War, and during the war the difficulty of importing equipment prevented expansion. However, after 1942, industrial investment began to increase, the total amount from 1943 to 1948 being ID 3,089,000. 1/ Between 1948/49 and 1951/52, the capital invested in the principal industries, other than petroleum, increased from about ID 312 million to ID 4.4 million, the value of production from 1.4 million to ID 3.6 million, and the number employed from 1,649 to 3,837. 2/ Since then, there has been substantial development. In 1954 it was estimated that there were some 70,000 to 80,000 persons engaged in manufacturing. Of these, somewhat less than half were handicraftsmen; some 13,000 were employed in the petroleum industry; 10,000 to 15,000 in the textile and leather industries; about 6,000 in the building materials industry; about 4,500 in the food and beverages industries; and some 3,000 to 4,000 in the tobacco industry. 3/

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Manufacturing is concentrated around Baghdad, which accounts for about 70 per cent of total factory employment. In 1954, a check on firms in Baghdad showed that, of a total of 31,600 workers, 6,700 were in firms with over 1,000 employees; 3,800 were in firms with 500 to 999 employees; 2,000 were in the 250-499 group; 4,300 were in the 100-249 group; 3,000 were in the 20-99 group; 1,500 were in the 10-19 group; and 10,200 worked in firms employing 9 persons or less. 4/

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Recent surveys have indicated that Iraq may contain appreciable quantities of iron ore, copper, sulphur and sulphur compounds, gypsum, bitumen, dolomite, calcite and different varieties of marble. 5/ However, up to the present, little use has been made of these minerals, and the most important industries are those based on agricultural materials, namely: spinning and weaving of cotton and woollen textiles; rayon weaving; jute spinning and weaving; soap-making (about 7,500 tons); vegetable oils; tanning; tobacco products; beer (1,840,000 litres); alcohol (318,000 litres) and alcoholic drinks (1,560,000 litres). The recently founded cement industry produces about 200,000 tons a year. Consumption of electricity increased from 47 million kilowatt-hours in 1946 to 82 million in 1949 and 272 million in 1953. The amount used in manufacturing increased from 20 million kilowatt-hours in 1946 to 35 million in 1949 and 159 million in 1953. 6/

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1/ Industrial Bank, First Annual Report (Baghdad, 1948) (in Arabic).

2/ Hassan Ahmad Salman, "Development of Industry in Modern Iraq", Amrad, March 1954 (Baghdad).

3/ Carl Iverson, Monetary Policy in Iraq (Baghdad, 1954), page 71.

4/ The Iraq Times Annual, 1954 (Baghdad), page 54.

5/ Salman, loc. cit.

6/ These figures include electricity consumed at the oilfields, which increased from about 11 million kilowatt-hours in 1946 to about 21 million in 1949 and about 116 million in 1953; they exclude electricity consumed at pipeline stations, which amounted to 71 million kilowatt-hours in 1953 (Statistical Abstract).